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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/796,326	03/09/2004	Damodaran Vasudevan	CE10618R	2113

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MOTOROLA, INC.
1303 EAST ALGONQUIN ROAD
IL01/3RD
SCHAUMBURG, IL 60196

EXAMINER	
SOBUTKA, PHILIP	

ART UNIT	PAPER NUMBER
2618	

DATE MAILED: 05/01/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	10/796,326	VASUDEVAN ET AL.	
	Examiner	Art Unit	
	Philip J. Sobutka	2618	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☐ Responsive to communication(s) filed on _____.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *1-29* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☐ Claim(s) _____ is/are allowed.

6)☒ Claim(s) *1-3,7-9,13-17,21-23 and 27-29* is/are rejected.

7)☒ Claim(s) *4-6,10-12,18-20 and 24-26* is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☒ The drawing(s) filed on *09 March 2004* is/are: a)☒ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☒ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date *4/24/06*.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

DETAILED ACTION

Claim Objections

1. Claims 10,16, 22 and 25 are objected to because of the following informalities:

In claims 16 and 22 line 3, "signal determines" should be "signal *and* determines";

In claims 10 and 25, line 2, "based the" should be "based *on* the".

Appropriate correction is required.

Claim Rejections - 35 USC § 102

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 1-3,7-9,13,14 are rejected under 35 U.S.C. 102(b) as being anticipated by Haumont et al (US 20020032032)

Consider claim 1. Haumont teaches a method for controlling a cell reselection mode of a mobile station while the mobile station resides in a cell comprising:

determining a cell reselection mode of the mobile station *(Haumont teaches determining if a service cell should be reselected in paragraphs 5-7)*;

determining whether the mobile station is experiencing a change in radio frequency (RF) conditions *(Haumont teaches determining RF conditions in paragraphs 5-7, and 21-22)* ; and

when the mobile station is experiencing a change in RF conditions, instructing the mobile station to change a cell reselection mode used by the mobile station *(Haumont teaches that the cell reselection is triggered based on the measured conditions in paragraphs 5-6. Note that a mobile changing from a mode of operating in the current cell to reselecting another serving cell would be changing its cell reselection mode).*

As to claim 2, Haumont teaches the method of claim 1, wherein determining whether the mobile station is experiencing a change in radio frequency (RF) conditions comprises:

evaluating a downlink signal *(Haumont teaches evaluating both uplink and downlink signals as described in paragraphs 8,21,22)*; and

determining whether the mobile station is experiencing a change in radio frequency (RF) conditions based on the evaluation of the downlink signal *(Note that Haumont reselects on the basis of changed conditions as described in paragraphs 5-8,21,22).*

As to claim 3, Haumont teaches the method of claim 2, wherein evaluating a downlink signal comprises:

determining a signal quality metric associated with the downlink signal *(Haumont teaches monitoring various quality metrics on the uplink and downlink associated with both serving and neighboring cell on paragraph 5)*;

comparing the signal quality metric to a signal quality metric threshold *(Haumont paragraphs 8, 23,24)* ; and

determining whether the mobile station is experiencing a change in radio frequency (RF) conditions based on the comparison *(Haumont teaches determining reselection i.e. because of changed conditions, based on the results on paragraphs 5-8, 23,24)* .

As to claim 7, Haumont teaches the method of claim 2, wherein evaluating a downlink signal comprises evaluating one or more downlink signals received over an evaluation period *(Haumont teaches monitoring both serving and neighboring cell downlinks on paragraphs 5,21-23).*

As to claim 8, Haumont teaches the method of claim 1, wherein determining whether the mobile station is experiencing a change in radio frequency (RF) conditions comprises:

evaluating an uplink signal *(Haumont teaches evaluating both uplink and downlink signals as described in paragraphs 8,21,22)*;; and

determining whether the mobile station is experiencing a change in radio frequency (RF) conditions based on the evaluation of the uplink signal *(Note that Haumont reselects on the basis of changed conditions as described in paragraphs 5-8,21,22)* .

As to claim 9, Haumont teaches the method of claim 8, wherein evaluating a downlink signal comprises:

determining a signal quality metric associated with the uplink signal *(Haumont teaches monitoring various quality metrics on the uplink and downlink associated with both serving and neighboring cell on paragraph 5)*;

comparing the signal quality metric to a signal quality metric threshold *(Haumont paragraphs 8, 23,24)*; and

determining whether the mobile station is experiencing a change in radio frequency (RF) conditions based on the comparison *(Haumont teaches determining reselection i.e. because of changed conditions, based on the results on paragraphs 5-8, 23,24)*.

As to claim 13, Haumont teaches the method of claim 8, wherein evaluating an uplink signal comprises evaluating one or more uplink signals received over an evaluation period *(Haumont teaches monitoring various quality metrics on the uplink and downlink associated with both serving and neighboring cell on paragraph 5)*.

As to claim 14, Haumont teaches the method of claim 1, wherein instructing the mobile station to switch a cell reselection mode used by the mobile station comprises when the evaluation of the downlink signal indicates an improvement of radio frequency (RF) conditions experienced by the mobile station *(Haumont see paragraph 13)*, instructing the mobile station to lengthen a reporting period associated with a cell reselection mode used by the mobile station *(Haumont see paragraphs 13-15)*.

Claim Rejections - 35 USC § 103

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

5. This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

6. Claims 15-17,21-23, 27-29 are rejected under 35 U.S.C. 103(a) as being unpatentable over Haumont.

Consider claim 15. Haumont teaches a network controller comprising:

storing a default cell reselection mode associated with a cell serviced by the network controller *(Haumont teaches a network controller shown as RNS in figure 1. Note that Haumont teaches Network reselection modes associated with cells which control the measurement reporting of all mobiles in a cell, as described in paragraphs 27-31. Haumont teaches setting a default reselection mode for all mobiles in a cell in paragraph 30);* and

the controller determining a cell reselection mode of a mobile station located in the cell *(Note that a cell reselection mode of a mobile would simply determine whether the mobile remained in its current serving cell or reselected another serving cell. Note also that Haumont teaches network control of the mobile cell reselection process paragraphs 27-31);*

determines whether the mobile station is experiencing a change in radio frequency (RF) conditions *(Haumont teaches determining if a service cell should be reselected in paragraphs 5-7)*; and

when the mobile station is experiencing a change in RF conditions, instructs the mobile station to change a cell reselection mode *(Haumont teaches that the cell reselection is triggered i.e. the mobile enters the cell reselection process, based on the measured conditions in paragraphs 5-6. Note that a mobile changing from a mode of operating in the current cell to reselecting another serving cell would be changing its cell reselection mode)*.

Haumont teaches a Radio Network Controller *(Haumont fig 1, RNC),* but lacks a teaching of the controller including a processor and memory for storing and executing control. Official Notice is taken that it is notoriously well known in the art to use processor and memory in radio network controllers.

Therefore it would have been obvious to one of ordinary skill in the art to modify Haumont to include a memory and processor in the radio network controller in order to store and execute the control with readily available equipment.

As to claim 16, Haumont teaches the network controller of claim 15, wherein the processor determines whether the mobile station is experiencing a change in radio frequency (RF) conditions by evaluating a downlink signal quality metric associated with a downlink signal *(Haumont teaches evaluating both uplink and downlink signals as described in paragraphs 8,21,22)* and determines whether the mobile station is experiencing a change in radio frequency (RF) conditions based on the evaluation *(Note that Haumont reselects on the basis of changed conditions as described in paragraphs 5-8,21,22)*..

As to claim 17, Haumont teaches the network controller of claim 16, wherein the processor evaluates the signal quality metric by comparing the signal quality metric to a signal quality metric threshold *(Haumont teaches monitoring various quality metrics against thresholds on the uplink and downlink associated with both serving and neighboring cell on paragraph 5, 8, 23,24)* and further determines whether the mobile station is experiencing a change in radio frequency (RF) conditions based on the comparison *(Haumont teaches determining reselection i.e. because of changed conditions, based on the results on paragraphs 5-8, 23,24)* .

As to claim 21, Haumont teaches the network controller of claim 16, wherein the processor evaluates a downlink signal quality metric by evaluating downlink signal quality metrics over an over an evaluation period *(Haumont teaches monitoring both serving and neighboring cell downlinks on paragraphs 5,21-23)*.

As to claim 22, Haumont teaches the network controller of claim 15, wherein the processor determines whether the mobile station is experiencing a change in radio frequency (RF) conditions by evaluating an uplink signal quality metric associated with an uplink signal *(Haumont teaches evaluating both uplink and downlink signals as described in paragraphs 8,21,22)* and determines whether the mobile station is experiencing a change in radio frequency (RF) conditions based on the evaluation. *(Note that Haumont reselects on the basis of changed conditions as described in paragraphs 5-8,21,22)* .

As to claim 23, Haumont teaches the network controller of claim 22, wherein the processor evaluates the uplink signal quality metric by comparing the uplink signal quality metric to a signal quality metric threshold *(Haumont teaches monitoring various quality metrics on the uplink and downlink associated with both serving and neighboring cells against thresholds on paragraphs 5, 8,23,24)* and further determines whether the mobile station is experiencing a change in radio frequency (RF) conditions based on the comparison *(Haumont teaches determining reselection i.e. because of changed conditions, based on the results on paragraphs 5-8, 23,24)*.

As to claim 27, Haumont teaches the network controller of claim 22, wherein the processor evaluates an uplink signal quality metric by evaluating uplink signal quality metrics over an evaluation period *(Haumont teaches monitoring various quality metrics on the uplink and downlink associated with both serving and neighboring cell on paragraph 5)*.

As to claim 28, Haumont teaches the network controller of claim 15, wherein the processor instructs the mobile station to switch a cell reselection mode used by the mobile station comprises by, when the evaluation of the downlink signal indicates an improvement of radio frequency (RF) conditions experienced by the mobile station *(Haumont see paragraph 13)*, instructing the mobile station to lengthen a reporting period associated a cell reselection mode used by the mobile station *(Haumont see paragraphs 13-15)*.

As to claim 29, Haumont as applied to claim 15 teaches the network controller comprising a Base Station Controller *(Haumont paragraph 74)*, a Packet Control Function *(Haumont teaches a packet control channel as described in paragraph 21)*, and a Packet Control Unit *(Haumont, note that an SGSN (serving GPRS support node) provides control for the packet system, see figure 1)*.

Allowable Subject Matter

7. Claims 4-6, 10-12, 18-20 and 24-26 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

Consider claim 4. The nearest prior art as shown in Haumont fails to teach the method of claim 2, wherein evaluating a downlink signal comprises: determining a signal quality metric associated with the downlink signal; determining an uplink coding scheme based the signal quality metric; and

determining whether the mobile station is experiencing a change in radio frequency (RF) conditions based on the determined uplink coding scheme.

Consider claim 10. The nearest prior art as shown in Haumont fails to teach the method of claim 8, wherein evaluating an uplink signal comprises: determining a signal quality metric associated with the uplink signal; determining an uplink coding scheme based the signal quality metric; and determining whether the mobile station is experiencing a change in radio frequency (RF) conditions based on the determined uplink coding scheme.

Consider claim 18. The nearest prior art as shown in Haumont fails to teach the network controller of claim 16, wherein the processor evaluates the signal quality metric by determining an uplink coding scheme based the signal quality metric and further determines whether the mobile station is experiencing a change in radio frequency (RF) conditions based on the determined uplink coding scheme.

Consider claim 24. The nearest prior art as shown in Haumont fails to teach the network controller of claim 22, wherein the processor evaluates the uplink signal quality metric by determining an uplink coding scheme based on the uplink signal quality metric and further determines whether the mobile station is experiencing a change in radio frequency (RF) conditions based on the determined uplink coding scheme.

Regarding claims 5,6,11,12, 25 and 26, note that while Haumont does teach the network controlling the level of autonomy in the mobile, as described in paragraph 29, Haumont does not teach that is based on the determined RF

conditions, and in fact specifically has non-performance related criteria which control the level of mobile autonomy in certain situations, as described in paragraphs 33-38.

Consider claim 5. The nearest prior art as shown in Haumont fails to teach the method of claim 2, wherein instructing the mobile station to change a cell reselection mode used by the mobile station comprises: when the evaluation of the downlink signal indicates a deterioration of radio frequency (RF) conditions experienced by the mobile station and the mobile station is using an autonomous cell reselection mode, instructing the mobile station to switch to a network-controlled cell reselection mode; and when the evaluation of the downlink signal indicates an improvement of radio frequency (RF) conditions experienced by the mobile station and the mobile station is using a network-controlled cell reselection mode, instructing the mobile station to switch to an autonomous cell reselection mode.

Consider claim 6. The nearest prior art as shown in Haumont fails to teach the method of claim 2, wherein changing a cell reselection mode of the mobile station comprises when the evaluation of the downlink signal indicates an improvement of radio frequency (RF) conditions experienced by the mobile station and the mobile station is using an autonomous cell reselection mode that requires reporting, instructing the mobile station to switch to an autonomous cell reselection mode that does not require reporting.

Consider claim 11. The nearest prior art as shown in Haumont fails to teach the method of claim 8, wherein changing a cell reselection mode of the

mobile station comprises: when the evaluation of the uplink signal indicates a deterioration of radio frequency (RF) conditions experienced by the mobile station and the mobile station is using an autonomous cell reselection mode, instructing the mobile station to switch to a network-controlled cell reselection mode; and when the evaluation of the uplink signal indicates an improvement of radio frequency (RF) conditions experienced by the mobile station and the mobile station is using a network-controlled cell reselection mode, instructing the mobile station to switch to an autonomous cell reselection mode.

Consider claim 12. The nearest prior art as shown in Haumont fails to teach the method of claim 8, wherein changing a cell reselection mode of the mobile station comprises when the evaluation of the uplink signal indicates an improvement of radio frequency (RF) conditions experienced by the mobile station and the mobile station is using an autonomous cell reselection mode that requires reporting, instructing the mobile station to switch to an autonomous cell reselection mode that does not require reporting.

Consider claim 19. The nearest prior art as shown in Haumont fails to teach the network controller of claim 16, wherein the processor instructs the mobile station to change a cell reselection mode used by the mobile station by, when the evaluation of the downlink signal quality metric indicates a deterioration of radio frequency (RF) conditions experienced by the mobile station and the mobile station is using an autonomous cell reselection mode, instructing the mobile station to switch to a network-controlled cell reselection mode, and when the evaluation of the downlink signal quality metric indicates an improvement of

radio frequency (RF) conditions experienced by the mobile station and the mobile station is using a network-controlled cell reselection mode, instructing the mobile station to switch to an autonomous cell reselection mode.

Consider claim 20. The nearest prior art as shown in Haumont fails to teach the network controller of claim 16, wherein the processor instructs the mobile station to change a cell reselection mode used by the mobile station by when the evaluation of the downlink signal quality metric indicates an improvement of radio frequency (RF) conditions experienced by the mobile station and the mobile station is using an autonomous cell reselection mode that requires reporting, instructing the mobile station to switch to an autonomous cell reselection mode that does not require reporting.

Consider claim 25. The nearest prior art as shown in Haumont fails to teach the network controller of claim 22, wherein the processor instructs the mobile station to change a cell reselection mode used by the mobile station by, when the evaluation of the uplink signal quality metric indicates a deterioration of radio frequency (RF) conditions experienced by the mobile station and the mobile station is using an autonomous cell reselection mode, instructing the mobile station to switch to a network- controlled cell reselection mode, and when the evaluation of the uplink signal quality metric indicates an improvement of radio frequency (RF) conditions experienced by the mobile station and the mobile station is using a network-controlled cell reselection mode, instructing the mobile station to switch to an autonomous cell reselection mode.

Consider claim 26. The nearest prior art as shown in Haumont fails to teach the network controller of claim 22, wherein the processor instructs the mobile station to change a cell reselection mode used by the mobile station by, when the evaluation of the uplink signal quality metric indicates an improvement of radio frequency (RF) conditions experienced by the mobile station and the mobile station is using an autonomous cell reselection mode that requires reporting, instructing the mobile station to switch to an autonomous cell reselection mode that does not require reporting.

Conclusion

8. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure.

Balachandran et al (US 7,020185) has been cited to show setting coding schemes based on quality.

Schramm et al (US 6,542,742) has been cited to show cell selection based on quality and coding scheme.

9. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Philip J Sobutka whose telephone number is 571-272-7887. The examiner can normally be reached Monday through Friday from 8:30 - 5:00.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew D. Anderson can be reached on 571-272-4711.

10. The central fax phone number for the Office is 571-273-8300.

Most facsimile-transmitted patent application related correspondence is required to be sent to the Central FAX Number.

CENTRALIZED DELIVERY POLICY: For patent related correspondence, hand carry deliveries must be made to the Customer Service Window (now located at the Randolph Building, 401 Dulany Street, Alexandria, VA 22314), and facsimile transmissions must be sent to the Central FAX number, unless an exception applies. For example, if the examiner has rejected claims in a regular U.S. patent application, and the reply to the examiner's Office action is desired to be transmitted by facsimile rather than mailed, the reply must be sent to the Central FAX Number.

11. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see http://pair-direct.uspto.gov. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

4/28/06

PHILIP J. SOBUTKA
PATENT EXAMINER

Philip J Sobutka

(571) 272-7887